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This document describes necessary steps in the administration of successful school construction programs. Heavy emphasis is placed upon planning, with school planning seen as a vital part of comprehensive community planning. Advice is given on preparing a school district master plan, and ways are shown for using these planning efforts to advantage in selecting and acquiring school sites. Suggestions are made concerning enrollment projections, educational specifications, setting up individual school planning committees, the desirability of setting up a special department in charge of plant facilities, employment of architects, building specifications, and financing school construction. Finally, several typical criticisms of school construction are discussed and rebutted. A recurring theme of the document concerns the need to use specialists in every phase of the school construction program, both for assuring that facilities meet community and educational needs and as a cost saving measure. (TT)

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THE ADMINISTRATION OF A SCHOOL CONSTRUCTION PROGRAM

Speech Given by Dr. Harold E. Silvernail
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THE ADMINISTRATION OF A SCHOOL CONSTRUCTION PROGRAM

INTRODUCTION

GENTLEMEN OF OUR BUSINESS COMMUNITIES AND FELLOW SCHOOL ADMINISTRATORS:

MY ASSIGNMENT TODAY IS TO SHARE WITH YOU SOME OF THE IDEAS, PRACTICES, POLICIES AND PROBLEMS THAT ARE INVOLVED IN ADMINISTERING A PROGRAM OF SCHOOL CONSTRUCTION IN A GROWING WASHINGTON SCHOOL DISTRICT. IT IS NATURAL THAT I SHOULD DRAW HEAVILY ON INFORMATION FROM THE EDMONDS SCHOOL DISTRICT FOR THIS PRESENTATION BECAUSE THIS IS THE DISTRICT I KNOW BEST. IT IS THE SCHOOL SYSTEM IN WHICH I'VE WORKED FOR OVER A QUARTER-CENTURY. SOME OF THE IDEAS THAT WILL BE MENTIONED ARE NOT APPLICABLE TO OTHER SCHOOL DISTRICTS, AND I MAY DO SOME EDITORIALIZING. WHATEVER I SAY CAN BE SUBSTANTIATED BY DATA FROM OUR EXPERIENCE WITH SCHOOL CONSTRUCTION.

IN ORDER TO ACQUAINT YOU WITH OUR SETTING, LET ME BRIEFLY DESCRIBE OUR SCHOOL DISTRICT. EDMONDS SCHOOL DISTRICT #15 IS A CHUNKY, THIRTY-SIX SQUARE MILE PARCEL OF GEOGRAPHY LOCATED IN THE SOUTHWEST CORNER OF SNOHOMISH COUNTY. THIS DISTRICT IS A SUBURBAN BEDROOM-TYPE COMMUNITY STRONGLY ORIENTED TO SEATTLE. IT IS AN ORIGINAL DISTRICT AND NOT A PRODUCT OF CONSOLIDATION. IT IS A COMMUNITY OF HOMES AND SMALL ACREAGES, AND THERE IS VERY LITTLE MANUFACTURING IN THE AREA. MOST OF THE BUSINESSES ARE OF THE SERVICE TYPE TO MEET THE NEEDS OF THE HOUSEHOLDER. IT IS A DISTRICT RICH WITH CHILDREN, BUT IT IS A POOR DISTRICT WHEN MEASURED BY THE ASSESSED VALUE OF REAL AND PERSONAL PROPERTY PER CHILD IN SCHOOL. WE HAVE LESS THAN $3900 ASSESSED VALUE PER EACH CHILD ENROLLED. THIS IS ABOUT 1/3 AS MUCH AS SEATTLE. SOCIO-ECONOMICALLY, OUR PEOPLE ARE MOSTLY MIDDLE CLASS PEOPLE WHO PLACE HIGH VALUES ON EDUCATION. WE ARE A YOUNG POPULATION WITH A HIGH RATIO OF CHILDREN

TO ADULTS. IN FACT, WE HAVE THE HIGHEST RATIO OF CHILDREN TO ADULTS THAT CLARK, COLEMAN AND RUPEIKS HAVE EVER FOUND IN THEIR PLANNING STUDIES. OUR DISTRICT HAS REACHED ABOUT 65% POPULATION SATURATION. WE HAVE ALMOST EVERY PROBLEM COMMON TO RAPIDLY GROWING SUBURBS. TO ILLUSTRATE OUR SCHOOL POPULATION GROWTH, LET ME RELATE THESE STATISTICS: IN 1941, WHEN I WAS EMPLOYED AS A BEGINNING TEACHER, THERE WAS A TOTAL OF 1250 STUDENTS IN GRADES 1-12 HOUSED IN THREE SMALL, OLD GRADE SCHOOLS AND ONE REMODELED HIGH SCHOOL. TODAY, 27-1/2 YEARS LATER, WE HAVE 28,600 STUDENTS OCCUPYING 28 LARGE ELEMENTARY SCHOOLS, 6 JUNIOR HIGH SCHOOLS AND 4 SENIOR HIGH SCHOOLS. UNDER CONSTRUCTION ARE THREE ELEMENTARY SCHOOLS, TWO JUNIOR HIGH SCHOOLS, AND A MAJOR ADDITION AND REMODELING TO A SENIOR HIGH SCHOOL. IN FINAL STAGES OF PLANNING ARE ANOTHER ELEMENTARY SCHOOL AND A SENIOR HIGH SCHOOL. IT IS EVIDENT THAT WE HAVE HAD SOME EXPERIENCE WITH SCHOOL CONSTRUCTION.

COMPREHENSIVE COMMUNITY PLANNING

THE ADMINISTRATION OF ANY PHASE OF SCHOOL OPERATIONS BEGINS WITH PLANNING. SCHOOL PLANNING IS A VITAL PART OF COMPREHENSIVE COMMUNITY PLANNING. SCHOOL PLANNING ISOLATED FROM COMPREHENSIVE COMMUNITY PLANNING IS VERY RISKY. UNLESS SCHOOL ADMINISTRATORS AND SCHOOL BOARDS REALLY BELIEVE IN THE CONCEPTS OF COMPREHENSIVE PLANNING OF THE USE OF LAND, ORDERLY SCHOOL PLANNING WILL BE MOST DIFFICULT. GOOD SCHOOL PLANNING BEGINS WITH THE SUPERINTENDENT'S ATTITUDE, KNOWLEDGE AND USE OF THE SCIENCE OF COMPREHENSIVE PLANNING. WHERE THERE IS A COMPREHENSIVE COMMUNITY PLAN, SCHOOL PLANNING BECOMES A MEANINGFUL TASK. IF SUCH A PLAN DOES NOT EXIST, SCHOOL ADMINISTRATORS WILL BE WELL ADVISED TO SEEK PROFESSIONAL PLANNING ASSISTANCE FROM CITY OR COUNTY RESOURCES OR EVEN THE EMPLOYMENT OF AN INDEPENDENT PROFESSIONAL PLANNER TO DO THE BASIC PLANNING JOB FOR THE DISTRICT. HOWEVER IT IS DONE, THE TIME AND MONEY WILL BE WELL SPENT.

OUR DISTRICT HAS BEEN FORTUNATE TO HAVE BEEN A PARTICIPANT IN THE DEVELOPMENT OF SEVERAL COMMUNITY PLANS, THE LATEST BEING A COMPREHENSIVE STUDY FOR ALL OF SOUTHWEST SNOHOMISH COUNTY. THIS PROJECT WAS DONE BY A PROFESSIONAL PLANNING FIRM AND WAS COOPERATIVELY FINANCED BY LOCAL MUNICIPALITIES, INCLUDING THE SCHOOL DISTRICT. FEDERAL PL 701 FUNDS WERE INVOLVED. THIS STUDY UPDATED OUR MASTER SCHOOL PLAN FOR SATURATION POPULATION FOR THE FOURTH TIME SINCE IT WAS STARTED IN 1956. THE ORIGINAL STUDY WAS A SERVICE OF THE SNOHOMISH COUNTY PLANNING DEPARTMENT. MY OWN EXPOSURE TO PLANNING RESULTED FROM SIX YEARS OF MEMBERSHIP ON THE COUNTY PLANNING COMMISSION, FOUR OF WHICH I SERVED AS CHAIRMAN. MY COMMITMENT TO COMPREHENSIVE PLANNING IS STRONG. SCHOOL ADMINISTRATORS AND SCHOOL BOARDS WILL ALSO BE WELL ADVISED TO BE SUPPORTIVE AND TO BECOME INVOLVED WITH COMPREHENSIVE PLANNING FOR THEIR DISTRICT, COUNTY AND REGION, AND IN ADDITION, TO BECOME KNOWLEDGEABLE OF THE CONCEPTS AND LAWS THAT UNDERGIRD GOOD COMMUNITY PLANNING.

SCHOOLS' PHILOSOPHY AND GOALS

BEFORE A LOCAL SCHOOL DISTRICT CAN BEGIN TO PREPARE A MASTER SCHOOL PLAN, IT IS ESSENTIAL THAT THE PHILOSOPHY AND GOALS OF THE EDUCATIONAL INSTITUTION BE DEVELOPED AND WRITTEN. WITHOUT THIS INFORMATION, THERE EXISTS NO GOOD PLACE TO BEGIN SCHOOL PLANNING. A DISTRICT'S SCHOOL BOARD AND SCHOOL STAFF HAVE AN OBLIGATION TO SET FORTH IN WRITING THE PURPOSE OF THEIR PUBLIC SCHOOLS AND TO DEVELOP A CLEAR UNDERSTANDING OF HOW THE GOALS OF THE DISTRICT ARE TO BE ATTAINED. WRITTEN STATEMENTS OF PHILOSOPHY AND GOALS ARE AS IMPORTANT TO SCHOOL OPERATIONS AS THE NEW TESTAMENT IS TO CHRISTIANITY. GOALS CHANGE SLOWLY LITTLE, BUT THE MEANS OF IMPLEMENTATION MUST BE KEPT FLEXIBLE.

AMONG THE MANY QUESTIONS THE STATEMENTS OF PHILOSOPHY AND GOALS MUST ANSWER ARE:

a. WHAT TYPE OF SCHOOLS SHALL THE DISTRICT HAVE - SPECIALIZED OR COMPREHENSIVE? IF COMPREHENSIVE, HOW COMPREHENSIVE? IF SPECIALIZED, HOW SPECIALIZED?

b. WHAT SPECIAL PROGRAMS SHALL BE AVAILABLE TO BOYS AND GIRLS? IS KINDERGARTEN TO BE A REGULAR PART OF THE DISTRICT'S PROGRAM? WILL SPECIAL EDUCATION BE AVAILABLE FOR HANDICAPPED CHILDREN? WILL VOCATIONAL EDUCATION BE A PART OF THE CURRICULUM?

e. WHAT WILL BE THE DISTRICT'S GRADE ORGANIZATION OF SCHOOLS? K-6, 7-9, 10-12? K-4, 5-8, 9-12? WHAT ABOUT EDUCATIONAL CENTERS?

f. WHAT SHALL BE THE OPTIMUM SIZE OF EACH TYPE OF SCHOOL?

g. WILL TRANSPORTATION BE PROVIDED?

h. SHALL SCHOOLS BE DESIGNED FOR PUBLIC USE AFTER SCHOOL?

i. WHAT SHALL BE THE OPTIMUM CLASS SIZE FOR EACH TYPE OF PROGRAM?

j. HOW LARGE IS A SCHOOL SITE TO BE?

EACH OF THESE QUESTIONS AND MANY MORE LIKE THEM IS A STUDY IN ITSELF, BUT UNTIL EACH IS ANSWERED BY THE SCHOOL BOARD, PLANNING CANNOT REST ON A FIRM FOUNDATION. IN OUR SCHOOL DISTRICT, AND IN MOST DISTRICTS, QUESTIONS OF PROGRAM AND FACILITIES FOR HANDICAPPED CHILDREN, KINDERGARTEN YOUNGSTERS, AND PREVOCATIONAL EXPERIENCES FOR STUDENTS, ARE NO LONGER DEBATED BECAUSE THESE HAVE BEEN WRITTEN INTO OUR ACCEPTED SCHOOL PHILOSOPHY, GOALS AND POLICIES. WE ARE NOW BEING FACED WITH NEW PROPOSALS FOR EDUCATION SUCH AS: THE FULL DAY PROGRAM FOR KINDERGARTEN CHILDREN, PROGRAMS FOR FOUR-YEAR-OLDS, NON-TUITION SUMMER SCHOOLS, THE YEAR-AROUND SCHOOL, AREA VOCATIONAL CENTERS, EDUCATIONAL CENTERS, THE MIDDLE SCHOOL CONCEPT,

EXPANDED USE OF ELECTRONIC DEVICES FOR TEACHING, AND MANY OTHERS. ALL OF THESE WILL NEED STAFF, SCHOOL BOARD AND PUBLIC DISCUSSION BECAUSE EVERY IDEA HAS A PRICE, AND EVERY ONE OF THE ABOVE IDEAS HAS AN IMPACT ON PLANT FACILITIES.

OUR DISTRICT IS ORGANIZED ON THE K-6-3-3 PLAN. EACH OF OUR ELEMENTARY SCHOOLS ARE THE SAME SIZE - FACILITIES TO HANDLE 600 FULL-TIME PUPILS. OUR JUNIOR HIGH SCHOOLS ARE ALL PLANNED FOR 900 STUDENTS, WHILE OUR SENIOR HIGH SCHOOLS ACCOMMODATE 1500 STUDENTS. THESE POLICY DECISIONS, MADE BY OUR SCHOOL BOARD, ESTABLISH THE SIZE OF OUR SCHOOLS.

OUR SCHOOL BOARD HAS A POLICY ON PORTABLE CLASSROOMS. WE CONSTRUCTED TEN SUCH BUILDINGS A DECADE AGO TO HELP SOLVE HOUSING PROBLEMS DURING A VERY RAPID GROWTH PERIOD. WE CONTINUE TO USE THESE MOVABLE BUILDINGS TO FACILITATE OVERLOADING AS THE NEED ARISES. OUR BOARD REFUSES TO BUY OR BUILD MORE OF THESE SUBSTANDARD CLASSROOMS BECAUSE IT FEELS THAT THESE SUBSTANDARD CLASSROOMS BECOME PERMANENT, AND AT THE SAME TIME BECOME A BLOCK TO BETTER EDUCATION FACILITIES. OUR ADMINISTRATIVE CHALLENGE IS TO DO OUR PLANNING SO THAT SCHOOL BUILDINGS WILL BE READY WHEN THE ENROLLMENT DEMANDS. THIS IS A REAL CHALLENGE BECAUSE MANY OF THE FACTORS INVOLVED ARE OUT OF OUR CONTROL.

CLASS SIZE IS THE MULTI-BILLION DOLLAR QUESTION IN AMERICAN EDUCATION. IT IS ALSO CLOSELY RELATED TO THE QUALITY OF THE EDUCATIONAL PROCESS. PUBLIC SCHOOLS ARE A MASS EDUCATION INSTITUTION. THE RATIO OF PROFESSIONAL STAFF MEMBERS TO PUPILS DETERMINES HOW "MASS" THE EDUCATIONAL PROCESSES WILL BE AND ALSO HOW EFFECTIVE THE EDUCATIONAL PROGRAMS MAY BE FOR BOYS AND GIRLS.

WE EMPLOY CLASSROOM TEACHERS ON THE BASIS OF ONE TEACHER TO 29 PUPILS IN GRADES 1-3, AND 1 TEACHER TO 30 PUPILS IN GRADES 4-6. OUR SECONDARY SCHOOLS ARE STAFFED ON THE FORMULA OF ONE TEACHER TO 25 STUDENTS. WE DO HAVE SOME LIMITED FLEXIBILITY BEYOND THESE BOARD-ESTABLISHED FORMULAS, BUT IT IS USED SPARINGLY. THESE STANDARDS ARE FAR FROM OPTIMUM EDUCATIONAL GOALS. THEY ARE A PRODUCT OF PRACTICAL FINANCIAL DICTATES. REDUCING CLASS SIZE IS EXPENSIVE. IN OUR DISTRICT, IT WOULD COST AT LEAST $500,000 IN OPERATING EXPENSES TO REDUCE CLASS SIZE IN OUR ELEMENTARY SCHOOLS BY TWO PUPILS. IN ADDITION, TO ACCOMMODATE THE NEW CLASSES INVOLVED IN SUCH A CHANGE, WE WOULD NEED TWO MORE 600-PUPIL ELEMENTARY SCHOOLS, WHICH NOW COST IN EXCESS OF A MILLION DOLLARS EACH. THESE ARE THE COSTS THAT KEEP EDUCATION A "MASS" EXPERIENCE FOR CHILDREN EVEN THOUGH WE KNOW THAT THERE ARE MORE EFFECTIVE WAYS OF TEACHING CHILDREN.

OUR STANDARDS FOR SITE SIZE VARY WITH THE TYPE OF SCHOOL, AND SOMETIMES WITH THE TOPOGRAPHICAL AND GEOGRAPHICAL QUALITY OF THE LAND. OUR MINIMUM GOAL FOR AN ELEMENTARY SCHOOL IS 10 ACRES; FOR A JUNIOR HIGH SCHOOL SITE, 20 ACRES; AND FOR A SENIOR HIGH SCHOOL SITE, 40 ACRES. THESE SIZES AGREE WITH STATE BOARD RECOMMENDED STANDARDS. CURRENTLY, OUR DISTRICT OWNS ENOUGH SCHOOL SITES TO MEET THE ESTIMATED DEMANDS FOR OUR PROJECTED SCHOOL POPULATION WHEN SATURATION DENSITIES ARE REACHED.

SCHOOLS ARE FACED WITH A TREMENDOUS PROBLEM OF UPGRADING FACILITIES TO MEET THE DEMANDS OF NEW AND BETTER CURRICULAR PROGRAMS. RECENTLY OUR DISTRICT ADOPTED A NEW JUNIOR HIGH SCHOOL SCIENCE PROGRAM THAT EMPHASIZES STUDENT PARTICIPATION IN LABORATORY EXPERIMENTS RATHER THAN THE PROCEDURES OF TEACHER DEMONSTRATION AND STUDENT OBSERVATION. THERE IS NO QUESTION ABOUT THE EFFECTIVENESS OF THE TWO METHODS OF TEACHING.

EVERYONE LEARNS MORE QUICKLY AND MORE PERMANENTLY BY DOING. BUT THE NEW PROGRAM REQUIRES A DIFFERENT FACILITY - MORE SOPHISTICATED AND MORE EXPENSIVE. YET, CAN WE AFFORD NOT TO MOVE AHEAD TO BETTER PROGRAMS AND BETTER TEACHING FOR OUR SONS AND DAUGHTERS? ONCE A DECISION IS MADE TO MAKE THE SCIENCE LABORATORY IN ONE BUILDING MORE ADEQUATE, A STANDARD OF EXCELLENCE IS ESTABLISHED FOR THE DISTRICT THAT IS USUALLY APPLICABLE TO ALL SCHOOLS. THIS CALLS FOR REMODELING AND RE-EQUIPPING, AND THIS HAS ITS PRICE. YET, WE WOULD WANT OUR SONS TO HAVE THE SAME OPPORTUNITY FOR LEARNING AS ANOTHER BOY WHO BY CHANCE LIVES IN AN AREA THAT IS SERVED BY THE NEWEST JUNIOR HIGH SCHOOL. PROGRAM CHANGES IN CURRICULUM ALMOST ALWAYS HAVE AN IMPACT ON PLANT FACILITIES. SOME WASHINGTON CHILDREN ARE SERIOUSLY SHORTCHANGED BECAUSE THE SCHOOL FACILITIES NOW AVAILABLE TO THEM CANNOT ADEQUATELY HOUSE MANY OF THE NEWER AND BETTER PROGRAMS. GENTLEMEN, IT IS IMPOSSIBLE TO GIVE STUDENTS EXPERIENCES IN SCHOOL TODAY THAT WILL FIT THEM FOR THE CHALLENGES OF TOMORROW IN A FACILITY THAT HAS NOT KEPT UP WITH THE TIMES. THIS IS WHY REMODELING AND REPLACING OF OBSOLETE FACILITIES IS A NECESSARY PART OF ANY SCHOOL DISTRICT'S SCHOOL CONSTRUCTION PROGRAM. WE HAVE TROUBLE TODAY FITTING THE NEWEST AND BEST PROGRAMS INTO BUILDINGS WE COMPLETED FIVE YEARS AGO. THAT'S HOW FAST THE EDUCATIONAL PROGRAMS ARE CHANGING. NEW AND BETTER PROGRAMS DO AFFECT SCHOOL FACILITIES PLANNING. A SCHOOL DISTRICT'S PHILOSOPHY, GOALS AND POLICIES SET THE STAGE FOR SCHOOL PLANT PLANNING.

<u>THE SCHOOL DISTRICT'S MASTER SCHOOL PLAN</u>

SCHOOL DISTRICTS ARE OFTEN FORCED TO LOCATE AND PLAN BUILDINGS PRIOR TO THE EXISTENCE OF A MASTER PLAN FOR LOCATING SCHOOLS. AT BEST, THIS TYPE OF PLANNING IS DIFFICULT AND OFTEN EXPENSIVE. THE INCORRECT PLACEMENT OF A SCHOOL BUILDING CAN BE A HANDICAP TO THAT SCHOOL DURING ITS

ENTIRE LIFETIME. BUILDING A SCHOOL DOWNTOWN ONCE WAS AN ACCEPTED IDEA BECAUSE THE STUDENTS WOULD BE CLOSE TO BUSINESS ESTABLISHMENTS WHERE PURCHASES COULD BE MADE. THIS WAS SUPPOSED TO BE A BOON TO BUSINESS AND A CONVENIENCE FOR CHILDREN. SCHOOL PRINCIPALS HAVE FOUND THAT SUCH PLACEMENT OF BUILDINGS CREATES DIFFICULT PROBLEMS, AND MOST BUSINESSMEN ARE NOT TOO ENTRANCED WITH A THOUSAND STUDENTS INVADING THE CITY CENTER AT ONE TIME. PRESENT PLANNING RECOMMENDS THAT SCHOOLS BE PLACED AWAY FROM BUSINESS AND TRAVEL CENTERS.

MASTER PLANNING OF SCHOOL ATTENDANCE AREAS IS NOT A JOB FOR EDUCATORS. SCHOOL OFFICIALS ARE NECESSARY RESOURCE PEOPLE FOR COMMUNITY PLANNING. MASTER PLANNING SCHOOL ATTENDANCE AREAS IS A SOPHISTICATED SCIENCE THAT REQUIRES THE ATTENTION OF PROFESSIONAL PLANNERS. MASTER SCHOOL PLANNING IN OUR DISTRICT CONSISTS OF DIVIDING THE GEOGRAPHY OF A SCHOOL DISTRICT INTO ELEMENTARY, JUNIOR HIGH AND SENIOR HIGH SCHOOL ATTENDANCE AREAS SO THAT ON POPULATION SATURATION THERE WILL BE SUFFICIENT NUMBERS OF EVERY TYPE OF CLASSROOM IN THE BEST LOCATION. THIS TYPE OF PLANNING INVOLVES STUDIES OF TRANSPORTATION ROUTES, POPULATION DENSITIES, EXISTING AND ANTICIPATED ZONING ORDINANCES. THE END PRODUCT OF LAND-USE STUDIES GIVES PLANNERS THE ACRES OF LAND THAT WILL BE AVAILABLE FOR SINGLE AND MULTI-FAMILY DWELLING UNITS. FROM THESE AND OTHER DATA, THE SCHOOL-AGE CHILDREN CAN BE PROJECTED AND NEEDED SCHOOL FACILITIES CALCULATED.

OUR DISTRICT HAS A MASTER PLAN FOR EACH OF THE THREE LEVELS OF SCHOOL ORGANIZATION. THE GOAL IN PLANNING IS TO DESIGN A COMPACT GEOGRAPHIC AREA THAT WILL PROVIDE ENOUGH STUDENTS TO MAKE MAXIMUM USE OF A SCHOOL FACILITY. THE AREA SHOULD BE BOUNDED BY HEAVILY TRAFFICKED ROADS SO THAT STUDENTS WILL HAVE SAFE WALKING CONDITIONS. THE SCHOOL SITE IS THEN LOCATED NEAR

THE CENTER OF THE ATTENDANCE AREA SO AS TO REDUCE WALKING AND BUSSING DISTANCES. OUR ELEMENTARY ATTENDANCE AREAS ARE PLANNED SO THAT STUDENTS WILL WALK TO SCHOOL ONCE SAFE WALKING CONDITIONS EXIST. JUNIOR AND SENIOR HIGH SCHOOL ATTENDANCE AREAS ARE LARGER, AND THEY WILL ALWAYS REQUIRE SOME BUS SERVICE. IT IS THE DISTRICT'S MASTER PLAN FOR SCHOOL ATTENDANCE AREAS THAT IS THE FIRST ESSENTIAL STEP TO THE PROPER LOCATION OF SCHOOL BUILDINGS.

SCHOOL SITE SELECTION

ONCE THE MASTER SCHOOL PLAN EXISTS, THE TASK OF SITE SELECTION AND PURCHASE CAN PROCEED WITH MORE CONFIDENCE. THE EXACT LOCATION OF THE SITE IS THE NEXT IMPORTANT STEP. THIS IS AGAIN A JOB FOR SPECIALISTS. THE STAFF OF THE COUNTY PLANNING DEPARTMENT, THE SCHOOL'S CONSULTING ENGINEER, THE DISTRICT'S PLANT FACILITIES STAFF, AND OFTEN THE SCHOOL ATTORNEY COMBINE KNOWLEDGE AND EFFORTS TO LOCATE SCHOOL SITES THAT FIT INTO THE COMMUNITY COMPREHENSIVE PLAN. USUALLY THIS GROUP OF SPECIALISTS LOCATES TWO OR MORE ALTERNATIVE SITES AND MAKES A COMPLETE ANALYSIS OF THEIR ADVANTAGES AND DISADVANTAGES. THESE ARE PRESENTED TO THE SCHOOL BOARD IN EXECUTIVE SESSION. THE BOARD MAKES A SELECTION AND GIVES DIRECTION TO THE ADMINISTRATION TO PROCEED WITH PURCHASING. OUR DISTRICT HAS A BOARD-ADOPTED SITE PURCHASING PROCEDURE. WE CAME TO THIS AFTER LEARNING THROUGH DIFFICULT EXPERIENCES THAT A GOOD POLICY IS NECESSARY. OUR NEXT STEP IN PURCHASING LAND IS TO ORDER AN MAI APPRAISAL OF THE SITE. IF THIS APPRAISAL IS WITHIN THE RANGE OF REASONABLENESS ESTABLISHED BY THE BOARD, OUR PLANT FACILITIES PERSONNEL CONTACT THE OWNER PERSONALLY, IF POSSIBLE, TO TALK TO HIM ABOUT THE NEED THAT THE SCHOOLS HAVE FOR HIS PROPERTY. WE ASK THE OWNER IF HE HAS A SELLING PRICE. IF HE DOES, AND IF THAT PRICE IS WITHIN THE RANGE OF REASONABLENESS, WE

NEGOTIATE THE SALE IMMEDIATELY. IF THE OWNER DOES NOT KNOW THE VALUE OF HIS PROPERTY AND FEELS UPSET ABOUT OUR ANNOUNCEMENT, WE NOTIFY HIM THAT THE SCHOOL INTENDS TO PAY THE FULL VALUE FOR HIS LAND. IN FACT, WE OFFER HIM THE FULL APPRAISED PRICE AND SHOW HIM THE APPRAISAL DOCUMENT. IN ADDITION, WE OFTEN OFFER TO PAY HIM UP TO $200.00 ADDITIONAL TO HIRE HIS OWN APPRAISER. AT THIS POINT, WE ATTEMPT TO NEGOTIATE THE SALE WITHOUT EXERTING PRESSURE AND WITHIN THE LIMITATIONS THAT THE BOARD HAS SET. IF THE OWNER REFUSES TO TALK OR NEGOTIATE, OR IF HIS SALE PRICE IS NOT ACCEPTABLE, THE BOARD FORMALLY INSTITUTES CONDEMNATION PROCEEDINGS. AT THIS POINT, THE SCHOOLS' ATTORNEY TAKES CHARGE. THE BOARD ATTEMPTS TO GET AN EARLY TRIAL DATE FOR THE CERTIFICATE OF NECESSITY, AND MAKES EVERY EFFORT TO SETTLE THE SALE PRICE SHORT OF A SUPERIOR COURT TRIAL. OUR BOARD HAS NEVER FAILED TO OBTAIN A FAVORABLE COURT DECISION ON A CERTIFICATE OF NECESSITY, PRIMARILY BECAUSE THE DISTRICT'S MASTER PLAN AND ENROLLMENT PROJECTIONS COMBINE TO CONFIRM OUR NEEDS. IT WOULD BE A MOST DIFFICULT TASK TO JUSTIFY BEFORE THE COURT THE NECESSITY OF A SPECIFIC SCHOOL SITE THAT WAS BEING PURCHASED FIVE OR MORE YEARS IN ADVANCE OF ACTUAL NEED WITHOUT A COMPREHENSIVE COMMUNITY PLAN, A DISTRICT MASTER SCHOOL LOCATION PLAN AND ADEQUATE ENROLLMENT PROJECTIONS.

ONCE A SITE IS PURCHASED, LAND DEVELOPMENT IS STIMULATED. USUALLY THE SCHOOL SITE WILL BE NEEDED EARLIER THAN FORMERLY ANTICIPATED. PARENTHETICALLY, THE BEST SITE PURCHASE POLICY AND PROCEDURE WILL NOT ALWAYS AVOID CONFLICT. WHEN IT IS NECESSARY TO USE THE POWER OF EMINENT DOMAIN TO BUY LAND, PEOPLE RESENT HAVING TO SELL, AND OFTEN CREATE MORE PROBLEMS THAN HAS BEEN INDICATED. WE CAN PROVE THAT OUR PURCHASING OF SCHOOL SITES IN ADVANCE OF THEIR ACTUAL USE HAS SAVED OUR PATRONS THOUSANDS OF DOLLARS.

SITES THAT TEN YEARS AGO COULD BE PURCHASED FOR $3,000 AN ACRE NOW COST $8,000 to $10,000 AN ACRE. IF HOMES ARE INVOLVED, THE COSTS ARE MUCH GREATER. PURCHASING LAND BEFORE HOMES ARE CONSTRUCTED IS ONE KEY TO LOWER SITE COSTS.

ENROLLMENT PROJECTIONS

THE DATE A SITE MUST BE USED DEPENDS ON THE POPULATION GROWTH OF A GIVEN AREA OF THE DISTRICT. THE NUMBER OF SCHOOLS THAT WILL BE NEEDED IN A GIVEN PERIOD OF TIME AND THE DATE THEY WILL BE NEEDED ARE JUDGMENTS THAT ARE MADE FROM STUDYING THE DISTRICT'S SCHOOL POPULATION STATISTICS. SCHOOL ENROLLMENT PROJECTIONS ARE ABSOLUTELY NECESSARY TO AVOID DELAYS IN SCHOOL CONSTRUCTION PROJECTS. STATE AND COUNTY GROWTH STATISTICS ARE HELPFUL TO LOCAL SCHOOL DISTRICTS, BUT LOCAL SCHOOL GROWTH STUDIES ARE ESSENTIAL FOR ACCURATE ENROLLMENT PROJECTIONS. THERE ARE SEVERAL MEANS OF PROJECTING SCHOOL ENROLLMENTS. THE STUDENT SURVIVAL RATE TECHNIQUE, WHEN COUPLED WITH LOCAL HOME BUILDING INFORMATION, HAS PROVEN TO BE EXCELLENT DATA FOR OUR USE. SELDOM ARE OUR PREDICTIONS MORE THAN 1% OFF THE MARK BECAUSE WE DO UP-DATE OUR PROJECTIONS ANNUALLY.

OUR SCHOOL POPULATION PROJECTIONS COVER A MINIMUM OF FIVE YEARS. THIS IS ESSENTIAL BECAUSE IT TAKES AT LEAST A YEAR TO PLAN THE EDUCATIONAL SPECIFICATIONS FOR A NEW SCHOOL, ANOTHER YEAR FOR THE ARCHITECT TO PRODUCE THE BUILDING DRAWINGS AND SPECIFICATIONS, AND FROM 12 TO 18 MONTHS TO CONSTRUCT A SCHOOL. LESS TIME THAN THIS INTERFERES WITH THE ADEQUATE PLANNING THIS PAPER PROPOSES. YOU CAN IMMEDIATELY SEE THE IMPORTANCE OF ACCURATE ENROLLMENT PROJECTIONS.

EDUCATIONAL SPECIFICATIONS

LONG BEFORE A SCHOOL IS PLANNED FOR A PARTICULAR SITE, THE DISTRICT MUST DEVELOP AND CONSTANTLY UPDATE ITS EDUCATIONAL SPECIFICATIONS FOR

SCHOOLS. EDUCATIONAL SPECIFICATIONS ARE WRITTEN DESCRIPTIONS OF THE PEOPLE AND THE PROCESSES THAT A BUILDING MUST ADEQUATELY HOUSE AND SERVE. THESE SPECIFICATIONS ARE DYNAMIC AND CONSTANTLY CHANGING. DEVELOPING EDUCATIONAL SPECIFICATIONS IS A JOB FOR EDUCATORS. THESE STATEMENTS ARE DEVELOPED BY THE PROFESSIONAL STAFF WORKING TOGETHER TO IMPROVE THE EDUCATIONAL OPPORTUNITIES FOR CHILDREN. WE ASSIGN THE DIRECTOR OF PLANT FACILITIES THE IMPORTANT RESPONSIBILITY OF SEEING THAT OUR EDUCATIONAL SPECIFICATIONS ARE CONSTANTLY EVALUATED AND IMPLEMENTED IN OUR SCHOOL CONSTRUCTION PROGRAM. IT IS HE AND HIS ASSISTANTS WHO HAVE THE RESPONSIBILITY OF WORKING WITH THE PROFESSIONAL TEACHING AND ADMINISTRATIVE STAFFS TO DEVELOP EDUCATIONAL SPECIFICATIONS THAT ACTUALLY DESCRIBE THE SCHOOL CURRICULUM. SOMETIMES CONFLICTS ARISE WHICH REQUIRE AN ADMINISTRATIVE DECISION BY THE SUPERINTENDENT AND/OR HIS CABINET. SOMETIMES A BOARD DECISION IS NECESSARY, ESPECIALLY WHEN THE PROBLEM INVOLVES FINANCES.

TOO MANY TIMES A SCHOOL DISTRICT FAILS TO DEVELOP EDUCATIONAL SPECIFICATIONS. OFTEN AN ARCHITECT SIGNS A CONTRACT TO DESIGN A NEW SCHOOL AND FINDS THAT EDUCATIONAL SPECIFICATIONS DO NOT EXIST. IN SUCH INSTANCES, THE ARCHITECT MAY DESIGN THE NEW PLANT ON THE BASIS OF THE OLD SCHOOL, OR HIS PERSONAL OPINION OF WHAT THE SCHOOL SHOULD BE. THESE APPROACHES CAN MAKE A BUILDING OBSOLETE AND INADEQUATE BEFORE IT IS BUILT. BUILDINGS CAN ACTUALLY BE A HINDRANCE TO LEARNING. A CONSCIENTIOUS ARCHITECT MAY ATTEMPT TO GATHER HIS OWN INFORMATION ABOUT THE SCHOOL PROGRAM. IF HE IS AN EXPERIENCED SCHOOL ARCHITECT, HE MAY DO A VALUABLE CONSULTANT SERVICE FOR THE DISTRICT. I FEEL THAT SUCH USE OF AN ARCHITECT'S TIME IS VERY WASTEFUL. TEACHERS HAVE BEEN KNOWN TO LEAVE DISTRICTS BECAUSE THE FACILITIES AVAILABLE FOR TEACHING HINDER THEM IN THEIR PROFESSIONAL SERVICE TO STUDENTS. A GOOD

TEACHING FACILITY HELPS RECRUIT GOOD TEACHERS. WELL WRITTEN, UP-TO-DATE, FORWARD-LOOKING EDUCATIONAL SPECIFICATIONS ARE THE BEST MEANS OF ASSURING A DISTRICT A PHYSICAL FACILITY THAT WILL ENHANCE LEARNING.

I HAVE ALREADY ALLUDED TO THE FACT THAT EDUCATIONAL SPECIFICATIONS MUST NOT BE A ONE-MAN CREATION. IT IS EASY TO LIMIT THE USEFULNESS OF A NEW SCHOOL BY BUILDING IT TO THE DICTATED SPECIFICATIONS OF ONE BUILDING PRINCIPAL. NO ONE KNOWS THAT MUCH! IN A YEAR OR TWO, THE PRINCIPAL MAY LEAVE AND ANOTHER WILL INHERIT THE FACILITIES, AND THE IDEAS OF THE FIRST MAN MAY LOSE THEIR APPEAL.

I'VE STATED THAT OUR EDUCATIONAL SPECIFICATIONS ARE A PRODUCT OF THE PROFESSIONAL STAFF. OUR FACULTIES ARE DIVIDED INTO DISTRICT-WIDE ACADEMIC AND VOCATIONAL COUNCILS FOR STUDYING AND UPGRADING THE CURRICULUM FOR EACH DISCIPLINE. THESE COUNCILS ARE WELL ORGANIZED AND HAVE PRESTIGE AND POWER IN DECISION-MAKING. THIS IS OUR GRASSROOTS APPROACH TO PROGRAM EVALUATION AND CHANGE. RECOMMENDATIONS FLOW FROM THE COUNCILS TO THE CURRICULUM COMMISSION, AN INTER-DISCIPLINARY SCREENING GROUP, TO THE ADMINISTRATIVE COUNCIL AND THE SUPERINTENDENT'S CABINET. FINAL RECOMMENDATIONS ARE MADE BY THE SUPERINTENDENT TO THE SCHOOL BOARD AND ARE OFTEN REINFORCED BY STAFF REPORTS. BRIEFLY THIS IS THE DECISION-MAKING PROCESS THAT HELPS KEEP EDUCATIONAL SPECIFICATIONS FOR SCHOOL BUILDINGS DYNAMIC AND CURRENT. THIS DESCRIPTION IS NOT UNIQUE. THERE MAY BE OTHER WAYS OF GETTING THE JOB DONE, BUT THE IMPORTANT POINT IS TO HAVE A KNOWN PROCESS FOR CURRICULAR DECISION-MAKING AND TO USE IT.

SMALLER SCHOOL DISTRICTS MAY FIND IT DIFFICULT TO FULLY STAFF THE PROCESS DESCRIBED ABOVE. THIS IS ONE ARGUMENT FOR UNITING OR CONSOLIDATING SMALL DISTRICTS. IT TAKES MANPOWER TO GET JOBS DONE, AND SCHOOLS HAVE BEEN NOTABLY SLOW IN RECOGNIZING THIS NEED.

INDIVIDUAL SCHOOL PLANNING COMMITTEE

ONCE EDUCATIONAL SPECIFICATIONS ARE AVAILABLE AND THE DATE IS KNOWN WHEN A NEW SCHOOL MUST BE READY FOR STUDENTS, IT'S TIME TO BEGIN THE PLANNING FOR THE NEW BUILDING. TIMING THE PLANNING FROM THE VERY BEGINNING THROUGH CONSTRUCTION IS MOST IMPORTANT. WE BEGIN OUR ACTUAL PLANNING BY APPOINTING A SCHOOL PLANNING COMMITTEE. THIS COMMITTEE IS ADVISORY TO THE PLANT FACILITIES DIRECTOR. IT IS COMPOSED OF STAFF MEMBERS WHO WILL BE ASSIGNED TO THIS OR ANOTHER SIMILAR BUILDING. THE COMMITTEE HELPS DEVELOP SPACE ALLOTMENTS FOR CLASSROOMS, LABORATORIES, STORAGE, OFFICE, MULTISERVICE FACILITIES, LIBRARIES, SITE DEVELOPMENT, ETC. FURTHERMORE, IT STUDIES AND HELPS SOLVE PROBLEMS AS THEY ARISE AMONG THE DIFFERENT DEPARTMENTS OR GRADE LEVELS IN THE SCHOOL. THE COMMITTEE MEMBERS ADVISE ON WHETHER SPACES THAT HAVE BEEN DESIGNED BY THE ARCHITECT REALLY MEET THE EDUCATIONAL SPECIFICATIONS' DEMANDS. WE HAVE FOUND THAT THESE COMMITTEES ASSURE US OF STAFF INVOLVEMENT IN PLANNING THAT IS ALL TOO EASY TO AVOID OR FORGET.

PLANT FACILITIES DEPARTMENT

I'VE USED THE TERM 'PLANT FACILITIES DEPARTMENT', AND NOW MORE ABOUT IT. IN OUR DISTRICT, PLANT FACILITIES WERE ONCE THE RESPONSIBILITY OF THE SUPERINTENDENT. AS OUR SCHOOL DISTRICT GREW WE WERE ABLE TO ASSIGN THIS RESPONSIBILITY TO ANOTHER EMPLOYEE, AT FIRST PART-TIME, AND THEN FULL-TIME. NOW A STAFF OF THREE FULL-TIME PROFESSIONALS ARE EMPLOYED. EACH TIME THE SUPERINTENDENT ASSIGNS A PARTICULAR RESPONSIBILITY TO A SPECIALIST, IT IS SURPRISING HOW MUCH BETTER THE JOB GETS DONE. THIS IS AS IT SHOULD BE, BECAUSE MOST IMPORTANT ASSIGNMENTS NEED FULL-TIME ATTENTION. THIS IS ANOTHER ADVANTAGE LARGER SCHOOL DISTRICTS ENJOY.

PLANT FACILITIES IS A DEPARTMENT IN CHARGE OF ALL BUILDING OPERATIONS, MAINTENANCE, GROUNDS, AND NEW PLANT PLANNING. OUR DIRECTOR HAS A WIDE VARIETY OF TRADESMEN AND SUPERVISORS TO OPERATE AND MAINTAIN THE PLANTS. IN ADDITION, HE HAS TWO PROFESSIONAL ASSISTANTS WHO DEVOTE MOST OF THEIR TIME TO SCHOOL PLANT PLANNING AND CONSTRUCTION REVIEW.

I HAVE SOME RATHER FIRM CONVICTIONS ABOUT SCHOOL PLANT PLANNING. I BELIEVE A LEADER FOR THE DEPARTMENT MUST BE SELECTED AND ASSIGNED RESPONSIBILITIES IN WRITING. HE MUST BE GIVEN THE AUTHORITY TO DO HIS WORK. ENCOURAGE HIM WITH YOUR INTEREST, BUT LET HIM DO HIS WORK WITHOUT UNNECESSARY ADMINISTRATIVE INTERVENTIONS. NEXT, I BELIEVE THIS LEADER MUST BE AN EDUCATOR TO DO THE JOB WE ASSIGN HIM. THE EMPHASIS OF THIS DEPARTMENT IS EDUCATION - NOT BUILDINGS OR THEIR OPERATION. THIS DEPARTMENT NEEDS MEN WHO HAVE TALENTS IN ENGINEERING, ARCHITECTURE, CONSTRUCTION, PLANNING, BUSINESS, PUBLIC RELATIONS AND COMMON SENSE. GOD MADE VERY FEW PEOPLE WITH ALL THESE TALENTS. IT IS BEST TO HAVE THE NEEDED STAFF RIGHT IN THE DEPARTMENT, BUT IF THIS IS IMPOSSIBLE, THESE SERVICES SHOULD BE PURCHASED. IT IS MUCH MORE ECONOMICAL TO BUY ADVICE THAN TO PAY FOR MISTAKES. THE DIRECTOR OF PLANT FACILITIES IS CHARGED WITH THE RESPONSIBILITY OF FUNCTIONING WITHIN THE SCOPE OF ADMINISTRATIVE AND BOARD POLICIES AND BUDGETS. IT IS THE SUPERINTENDENT'S JOB TO CONSTANTLY EVALUATE THE DEPARTMENT'S PERFORMANCE.

A BRIEF DESCRIPTION OF OUR THREE PLANT FACILITIES STAFF MEMBERS MAY BE OF INTEREST TO YOU. OUR DIRECTOR HAS TWENTY YEARS OF EXPERIENCE AN EDUCATOR IN OUR DISTRICT. HE WAS A VOCATIONAL TEACHER AND HAS CONSIDERABLE KNOWLEDGE OF THE BUILDING TRADES, ENGINEERING AND CONTRACTING.

HE HAS HIS MASTER'S DEGREE IN ADMINISTRATION. OUR ASSISTANT DIRECTOR IS ALSO A TWENTY-YEAR VETERAN EDUCATOR. HIS ACADEMIC MAJOR IS HISTORY, AND HE HAS BEEN A VARSITY COACH. HE SPENT SEVERAL SUMMERS CONTRACTING AND CONSTRUCTING HOMES AND OTHER SMALL BUILDINGS. HE SERVED AS DIRECTOR OF THE DEPARTMENT FOR ONE OF THE FOUR YEARS HE HAS BEEN ASSIGNED TO THIS AREA. THE THIRD MEMBER OF THE STAFF IS A LICENSED ARCHITECT WHO HOLDS A SECOND UNIVERSITY DEGREE IN COMMUNITY PLANNING. HE HAS SERVED AS A PROFESSIONAL PLANNER FOR CITY AND REGIONAL PROGRAMS AND DIRECTOR OF A COUNTY DEPARTMENT. HE HAS SERVED AS A SCHOOL PLANNER IN ANOTHER STATE, AND HAS ALSO DONE CONSIDERABLE ARCHITECTURAL DESIGN WORK AND PLANNING AS AN INDEPENDENT PROFESSIONAL. THIS TEAM WILL BE HARD TO BEAT! THE JOBS THEY DO OFTEN BRING COMMENDATIONS TO OUR DISTRICT. THEY ALSO SUPPLY INFORMATION FOR A SPEECH LIKE THIS! THEY PROMOTE AND SOLVE PROBLEMS IN PLANT FACILITIES THAT KEEP OUR BUILDING PROGRAM ON THE GROWING EDGE. THEY SAVE OUR DISTRICT MUCH MONEY EVERY YEAR THROUGH GOOD PLANNING AND KNOWING THE ROPES. IT TAKES AN EDUCATIONAL BACKGROUND WITH INTEREST AND ABILITY IN TEACHING AND CURRICULUM DEVELOPMENT AND KNOWLEDGE ABOUT SCHOOL ADMINISTRATION AND BUILDING CONSTRUCTION TO FILL THE SPECIFICATIONS FOR EMPLOYMENT ON OUR PLANT FACILITIES STAFF.

THE ARCHITECT

NOW LET'S TALK ABOUT THE SCHOOL ARCHITECT. IT SHOULD BE APPARENT THAT I BELIEVE AN AWFUL LOT OF PLANNING SHOULD BE DONE BEFORE THE ARCHITECT IS EMPLOYED. ARCHITECTS AND ARCHITECTURAL FIRMS VARY IN INTERESTS AND SKILLS. THEY ALSO VARY IN THE SERVICE THEY RENDER CLIENTS. BASICALLY, THEIR CONTRIBUTION TO A SCHOOL BUILDING IS THE CREATION OF AN ENVIRONMENT IN WHICH LEARNING WILL TAKE PLACE IN ACCORDANCE WITH THE EDUCATIONAL

SPECIFICATIONS. THE ARCHITECT'S CONTRIBUTIONS ARE PRIMARILY THOSE OF DESIGNING THE BUILDING, SPECIFYING BUILDING MATERIALS AND THE INSPECTION OF CONSTRUCTION. WHEN AN ARCHITECT SIGNS A CONTRACT WITH A DISTRICT, HE MUST MAKE A DISTRIBUTION OF HIS ANTICIPATED FEE. HE DIVIDES HIS GROSS FEE AMONG HIS ELECTRICAL, MECHANICAL, STRUCTURAL, ACOUSTICAL AND LANDSCAPE ENGINEERS AND RESERVES ENOUGH TO COVER HIS OFFICE AND STAFF EXPENDITURES. HOPEFULLY, HE HAS MONEY LEFT AS PROFIT FOR HIS BUSINESS. HE MUST DETERMINE HOW MANY HOURS OF LABOR HE CAN ASSIGN TO DESIGNING, DRAFTING, SPECIFYING AND LIAISON WORK. IF ARCHITECTS SUCCESSFULLY SOLVE THE DESIGN PROBLEMS OF A SCHOOL, MUCH TIME AND ENERGY MUST BE EXPENDED. TIME WASTED IN UNNECESSARY WORK REMOVES TIME FROM ESSENTIAL WORK. PROVIDE HIM WITH EDUCATIONAL SPECIFICATIONS.

FOR YEARS THE SCHOOL ARCHITECT'S GROSS FEE WAS 6% OF THE CONSTRUCTION CONTRACTS. RECENTLY THE STATE BOARD OF EDUCATION HAS SET A SLIGHTLY HIGHER FEE THAT REDUCES AS THE SIZE OF THE CONTRACT INCREASES. THE EFFECT OF THE STATE BOARD'S CEILING FOR MATCHING ARCHITECT FEES HAS USUALLY BEEN TO SET THE FEE AT THE CEILING. THE FEE IS USUALLY LOWER THAN THE COMPARABLE FEE IN BUSINESS AND INDUSTRY.

THE EMPLOYMENT OF AN ARCHITECT IS A MAJOR TASK. IN OUR DISTRICT, THE SCHOOL BOARD ELECTS ARCHITECTS AFTER CAREFULLY EVALUATING THEIR PAST SERVICES AND THEIR WORKING RELATIONS IN DISTRICTS.

SCHOOL ARCHITECTURE IN THE STATE OF WASHINGTON IS A DIFFERENT KIND OF EXPERIENCE. AN ARCHITECT WHO HAS HAD EXPERIENCE IN SCHOOL DESIGN CAN SURELY SAVE STEPS THE SECOND TIME THROUGH. A SCHOOL ARCHITECT SHOULD BE A MEMBER OF HIS PROFESSIONAL GROUP AND ALSO BE WELL ACQUAINTED WITH THE PUBLICATIONS OF, IF NOT A MEMBER OF, THE COUNCIL OF EDUCATIONAL FACILITIES PLANNERS. THE ARCHITECT SHOULD HAVE AN OFFICE STAFF OF SUFFICIENT SIZE

AND EXPERIENCE TO COMPLETE HIS WORK ON SCHEDULE. WE ARE NOT TOO ENAMORED BY THE NAME AND SIZE OF A FIRM. USUALLY ONLY ONE MAN IS ASSIGNED AS PROJECT CAPTAIN, AND THIS IS THE IMPORTANT MAN. OFTEN A LOCAL ARCHITECT WHO MUST LIVE NEAR THE BUILDINGS HE DESIGNS WILL TAKE SPECIAL INTEREST IN SCHOOL WORK AND WILL COME UP WITH SOME MOST ACCEPTABLE PLANS. IF AN ARCHITECT DOES AN EXCELLENT JOB FOR US, WE RE-EMPLOY HIM. IF WE HAVE SEVERAL JOBS, WE USE SEVERAL ARCHITECTS SO THAT COMPLETION WILL RESULT, AND THEN COMPARISONS CAN BE MADE.

WHEN WE EMPLOY AN ARCHITECT, WE DETERMINE EXACTLY WHAT SERVICES HE IS TO PERFORM. WE STIPULATE AS PART OF HIS CONTRACT THE CONSULTANT SERVICE HE IS TO RENDER, THE DUE DATES OF THE PRELIMINARY AND FINAL DRAWING AND SPECIFICATIONS, THE MEETINGS HE IS TO ATTEND, THE REPORTS HE IS TO SUBMIT, AND THE INSPECTIONS HE IS TO MAKE. WE ALSO MANDATE THAT NO CHANGE ORDER, REGARDLESS OF COST, IS TO BE PROCESSED WITHOUT THE DISTRICT'S APPROVAL. IN FACT, WE SPECIFY THAT ALL DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE WRITTEN REGARDLESS IF COSTS ARE INVOLVED. A DIRECT, CLEAN, WRITTEN APPROACH TO ALL PROBLEMS DURING THE CONSTRUCTION WILL HELP AVOID TROUBLES AND LAW SUITS. EXPERIENCE IS A GREAT TEACHER IN THIS AREA OF SCHOOL MANAGEMENT.

BUILDING SPECIFICATIONS

IT IS THE JOB OF THE ARCHITECT TO DEVELOP THE WRITTEN BUILDING SPECIFICATIONS. THIS IS ONE OF HIS SPECIAL SKILLS. HOWEVER, AN ALERT SCHOOL DISTRICT WILL ESTABLISH SOME HARDWARE AND EQUIPMENT PREFERENCES THAT BEST FIT THE LOCAL MAINTENANCE PROGRAM. A DISTRICT SHOULD HAVE A WELL PREPARED STAFF OF OPERATIONS AND MAINTENANCE PERSONNEL WHO CONSTANTLY EVALUATE

THE BUILDING HARDWARE AND EQUIPMENT THAT IS IN USE IN THE DISTRICT. THE CAREFUL COLLECTION AND STUDY OF MAINTENANCE RECORDS IS AS IMPORTANT TO BUILDING SPECIFICATIONS AS ARE CURRICULAR DATA TO EDUCATIONAL SPECIFICATIONS. IF THE OWNER KNOWS WHAT HE WANTS, THE ARCHITECT WILL KNOW WHAT TO SPECIFY. A DISTRICT CAN SAVE MANY DOLLARS AND HOURS OF LABOR BY STANDARDIZING DOORLOCKS, DOOR CLOSERS, WINDOW HARDWARE, FLOOR TILE, SHOP MACHINERY, HEATING AND VENTILATION EQUIPMENT AND A HUNDRED OTHER ITEMS. THE DISTRICT ALSO LEARNS WHAT MATERIALS, MODELS, TRADE NAMES AND SUPPLIERS TO RELY UPON. WE CAN BUY CHEAP HARDWARE AND LOWER THE COST OF CONSTRUCTION, BUT AT THE SAME TIME CREATE EXPENSIVE MAINTENANCE PROBLEMS THAT WILL PLAGUE THE BUDGET FOR THE LIFE OF THE BUILDING. ALL GOOD MATERIALS ARE NOT THE MOST EXPENSIVE. THE KNOWLEDGE GATHERED FROM THE SCHOOLS' MAINTENANCE EXPERIENCE IS USEFUL TO THE ARCHITECT AS HE WRITES THE CONSTRUCTION SPECIFICATIONS.

FINANCING SCHOOL CONSTRUCTION

IT ISN'T NEWS TO YOU THAT SCHOOLS ARE EXPENSIVE AND THAT COSTS ARE INCREASING. ANY CAPITAL PROGRAM IS AN EXPENSIVE VENTURE. IT MAY BE NEWS TO YOU, HOWEVER, TO LEARN THAT WASHINGTON HAS ONE OF OUR NATION'S BEST SCHOOL CONSTRUCTION PROGRAMS. OUR STATE LEGISLATURE AND OUR STATE BOARD OF EDUCATION HAVE COMBINED TO DEVELOP AND OPERATE A COOPERATIVE SCHOOL FINANCING PLAN THAT IS THE ENVY OF MANY STATES. THIS PROGRAM CONSISTS OF ALLOCATIONS OF STATE FUNDS TO LOCAL SCHOOL DISTRICTS ON A MATCHING FORMULA BASED UPON THE SCHOOL DISTRICT'S NEED AND WEALTH. THE PROGRAM IMPOSES CERTAIN CONTROLS THAT HAVE HELPED KEEP COSTS LOWER THROUGH SOME STANDARDIZATION OF PLANNING AND AT THE SAME TIME IT HELPS TO MORE WIDELY DISTRIBUTE STATE MONEY TO HELP EQUALIZE EDUCATIONAL OPPORTUNITIES FOR

STUDENTS WITHIN THE STATE. THIS PROGRAM HAS DEFINITELY KEPT SCHOOL CONSTRUCTION COSTS WELL BELOW COMPARABLE CONSTRUCTION IN INDUSTRY. THIS HAS BEEN ACCOMPLISHED BY THE STATE SUPERINTENDENT AND HIS STAFF CAREFULLY REVIEWING ALL PLANS AND APPLYING CERTAIN RESTRICTIONS ON MATCHABLE AREAS AND SQUARE FOOT COSTS.

THE STATE'S SHARE OF SCHOOL CONSTRUCTION FUNDS IS USUALLY RAISED BY LEGISLATIVE APPROPRIATIONS OR BY STATEWIDE BOND ISSUES. CURRENTLY SOME REVENUE COMES INDIRECTLY FROM THE SALE OF TIMBER FROM STATE LANDS. WITHOUT THESE STATE FUNDS SCHOOL CONSTRUCTION WOULD STOP IN OUR DISTRICTS AND CHAOS WOULD RESULT.

LOCAL FUNDS FOR CAPITAL CONSTRUCTION COME FROM TWO SOURCES - BONDS AND SPECIAL TAX LEVIES, BOTH OF WHICH ARE TAXES ON LOCAL PROPERTY. BOTH ARE ALSO LIMITED BY THE ASSESSED VALUE OF LOCAL SCHOOL DISTRICTS. THE STATE INSISTS THAT SCHOOL DISTRICTS BE BONDED TO MAXIMUM (10% OF ASSESSED VALUATION) TO QUALIFY FOR STATE MATCHING MONEY. THIS IS THE MINIMUM LOCAL EFFORT REQUIRED TO GET STATE ASSISTANCE. THE FUNDS FROM THE SALE OF BONDS ARE INSUFFICIENT TO MEET THE LOCAL DISTRICT'S NEED FOR SCHOOL CONSTRUCTION; IN FACT, BONDING REVENUES ARE NEVER ADEQUATE TO MEET LOCAL MATCHING MONEY REQUIREMENTS IN LOW-WEALTH SUBURBAN DISTRICTS. THE ONLY OTHER SOURCE OF LOCAL FUNDS IS THE SPECIAL BUILDING FUND TAX LEVY - A ONE-YEAR TAX ON PROPERTY FOR SCHOOL CONSTRUCTION PROJECTS. PASSING A BOND ISSUE AND SPECIAL LEVIES FOR OPERATIONS AND/OR BUILDING FUNDS ARE THE PLAGUE OF BOARDS AND SUPERINTENDENTS. YET THE SUCCESSFUL PASSAGE OF THESE TAXES IS ESSENTIAL IF WE ARE TO HAVE CLASSROOMS FOR CHILDREN WHEN WE NEED THEM. THE FUTURE HOLDS LITTLE HOPE FOR CHANGE IN THE FINANCIAL STRUCTURE FOR CAPITAL CONSTRUCTION. IN FACT, IF THE COMPETITION BETWEEN LEVIES FOR OPERATIONS AND

BUILDINGS ISN'T SOON REDUCED OR ELIMINATED BY TAX REFORM, BUILDING FUND LEVIES WILL BE EITHER NEGOTIATED OUT OR DEFEATED BY THE PUBLIC BECAUSE OF ITS RESISTANCE TO INCREASING PROPERTY TAXES. THE RESULT OF SUCH ACTION IS OBVIOUS. IT WILL SIMPLY DELAY CONSTRUCTION UNTIL THE NEED IS COMPLETELY OUT OF HAND AND THE COSTS ARE HIGHER.

FEDERAL FUNDS FOR SCHOOL CONSTRUCTION ARE PRESENTLY SO LIMITED THAT THEY DESERVE NO FURTHER MENTION.

RAPID-GROWING DISTRICTS

HAVE YOU EVER THOUGHT OF THE PROBLEMS OF THE RAPIDLY GROWING SCHOOL DISTRICT? USUALLY THESE DISTRICTS ARE SUBURBAN BEDROOM AREAS WITH LITTLE OR NO INDUSTRY. THESE DISTRICTS HAVE A VERY RESTRICTED FINANCIAL BASE FROM WHICH TO RAISE CONSTRUCTION FUNDS. MOST SUBURBAN DISTRICTS HAVE BEEN CARVED OUT OF FARMS AND WOODED AREAS. FEW HAVE MANY COMMUNITY IMPROVEMENTS. MOST OF THE PEOPLE LIVING THERE ARE NEW TO THE AREA AND SUDDENLY THEY NEED SCHOOLS, CHURCHES, ROADS, WATER, SEWERS, SIDEWALKS, PARKS, LIBRARIES AND OTHER CULTURAL AND RECREATIONAL IMPROVEMENTS. MOST ARE WILLING TAXPAYERS, BUT THEY HAVE LIMITED RESOURCES. THE ONE THING THEY DO HAVE IS CHILDREN. THEY ALSO SEND THESE CHILDREN TO PUBLIC SCHOOLS AND THE SCHOOLS CANNOT REFUSE THEM ENTRANCE. SO WE LEARN TO MAKESHIFT AND DOUBLESHIFT, AND WE FIGHT FOR PASSAGE OF SPECIAL LEVIES AND BOND ISSUES UNDER THE NATION'S MOST RESTRICTIVE TAX LAWS. WE FIGHT THE LEGISLATURE FOR A BETTER TAX BASE AND MORE STATE ASSISTANCE TO GIVE CHILDREN A CHANCE - A CHANCE THEY DESERVE AS AMERICANS.

I WOULDN'T WANT TO DE-EMPHASIZE THE PROBLEMS OF CITIES. THE PLAGUES OF CITIES ARE THEIR OLD, OUTMODED SCHOOL BUILDINGS AND THE INERTIA THAT BUILDS UP IN CITIZENS AND STAFF BECAUSE OF THE LACK OF NEW STIMULI. THE MORE RECENT PROBLEMS WITH HUMAN RELATIONS AND DISSENT CANNOT BE EASILY OR

QUICKLY SOLVED. WHEN THE AFFLUENT LEAVE THE CITIES AND THEIR PROBLEMS, THE CITY PLAGUE WORSENS. NONE OF US CAN REALLY ESCAPE TO THE SUBURBS - THE PROBLEMS REMAIN AND THEY ARE OURS - ALL OF OURS - TO HELP SOLVE.

CRITICISM OF SCHOOL CONSTRUCTION

BEFORE I CLOSE, LET ME ANSWER SOME OF THE OFTEN ASKED QUESTIONS ABOUT SCHOOL CONSTRUCTION. THIS WILL NOT BE A TOTAL DOCUMENTARY, BUT I WILL ANSWER SOME QUESTIONS: FIRST, "WHY DO WE BUILD HUGE, EXPENSIVE GYMNASIUMS INSTEAD OF MORE CLASSROOMS?" MOST OF US DO BUILD CLASSROOMS BEFORE GYMNASIUMS, BUT LARGE COVERED SPACES ARE NECESSARY TO CONDUCT A GOOD SCHOOL PROGRAM. COMMUNITIES DIFFER AND SCHOOLS REFLECT THEIR COMMUNITIES. SOME DISTRICTS, BOARDS AND PROBABLY ADMINISTRATORS WILL FIGHT HARDER FOR A TAX LEVY FOR A GYM FOR BASKETBALL THAN THEY WILL FOR A LIBRARY. HOWEVER, IF PEOPLE WISH TO SPEND THEIR OWN MONEY THAT WAY, THAT MUST BE THEIR PREROGATIVE. IF THIS ISN'T THE WAY THE COMMUNITY FEELS, IT SHOULD EXPRESS ITS OPINIONS AT THE NEXT SCHOOL BOARD ELECTION. I SHOULD ADD THAT THE STATE GUIDELINES FOR SCHOOL CONSTRUCTION DO CONTROL THE SPACE ALLOCATIONS FOR A SCHOOL, AND THIS HELPS TO KEEP GYMNASIUM CONSTRUCTION AND OTHER SPECIAL FACILITIES IN LINE.

NEXT, "WHY NOT BUILD ALL SCHOOLS ALIKE AND SAVE THE ARCHITECT'S FEE?" ON THE SURFACE THIS SOUNDS LIKE A GOOD IDEA. OUR DISTRICT HAS BEEN INVOLVED IN THREE EXPERIMENTS WHICH INVOLVE THE REUSE OF SCHOOL PLANS. THE FIRST OF THESE WAS A STATE STUDY WHICH CULMINATED INTO A DOCTORAL THESIS AT WASHINGTON STATE UNIVERSITY. THE EXPERIMENT WAS PLANNED BY A COMMITTEE OF ARCHITECTS, SCHOOL ADMINISTRATORS AND STATE OFFICE PERSONNEL. A JUNIOR HIGH SCHOOL BUILDING WAS DESIGNED FOR EPHRATA, WASHINGTON AND CONSTRUCTED THERE. THE PLANS WERE THEN ACCEPTED BY EDMONDS AND WERE ADAPTED TO FIT OUR SITE AND INCREASED IN SIZE TO FIT OUR EDUCATIONAL SPECIFICATIONS. AFTER

CONSIDERABLE STUDY, THE ARCHITECTS AND OUR DISTRICT DECIDED TO DO TWO PLANS. THE FIRST WOULD BE THE EPHRATA BUILDING ADAPTED TO OUR DISTRICT, AND THE SECOND WAS AN ALTERNATE DESIGNED FOR US AS IF THE EPHRATA PLAN DIDN'T EXIST. BOTH PLANS WERE BID. THE EXPERIMENTAL PLAN COST $100,000 MORE THAN THE ALTERNATE AND IT STILL DIDN'T MEET LOCAL NEEDS. AMONG OTHER THINGS, THIS STUDY CONCLUDED THAT PLANS MADE FOR ONE SIDE OF THE STATE OF WASHINGTON WERE MOST DIFFICULT TO ADAPT TO THE OTHER SIDE WITHOUT AN INVESTMENT OF MONEY IN REDESIGN THAT WOULD EXCEED THE CONTEMPLATED SAVINGS. THE COMMITTEE AND THE THESIS BOTH AGREED ON THE CONCLUSIONS.

OUR SCHOOL BOARD AUTHORIZED ANOTHER EXPERIMENT WHICH BECAME A MASTER'S DEGREE STUDY AT THE UNIVERSITY OF WASHINGTON. THIS TIME, ONE ELEMENTARY SCHOOL PLAN WAS REUSED TO BUILD THREE BUILDINGS. IN EACH CASE, THE SIZE REMAINED THE SAME, BUT THE PLANS WERE ADAPTED TO THE DIFFERENT SITES. THE ARCHITECT WAS ORDERED TO KEEP FULL RECORDS OF ALL HIS EXPENDITURES AND TO HAVE HIS BOOKS OPEN FOR INSPECTION AND QUESTIONING. THIS EXPERIMENT TAUGHT US THAT THE REUSE OF PLANS DOES SAVE SOME MONEY IN ARCHITECT'S FEES - FROM .5% to 1% OF CONSTRUCTION COSTS. HOWEVER, SUCH REUSE MANDATES THE PERPETUATION OF THE DISADVANTAGES OF A SCHOOL BUILDING AS WELL AS ITS ADVANTAGES. IT ALSO RULED OUT CHANGES THAT SHOULD HAVE BEEN MADE BECAUSE OF CHANGES IN OUR EDUCATIONAL SPECIFICATIONS. FURTHERMORE, MORE ECONOMICAL AND BETTER BUILDING MATERIALS WERE MANUFACTURED BY INDUSTRY DURING THE FOUR-YEAR PERIOD INVOLVED IN THE EXPERIMENT THAT COULD NOT BE INTRODUCED INEXPENSIVELY INTO THE STOCK PLAN. CONSTRUCTION COSTS INCREASED WITH EACH USE OF THE PLAN, VERY COMPARABLE TO OTHER BUILDINGS, EVEN THOUGH ONE CONTRACTOR WAS THE LOW BIDDER ON ALL THREE PROJECTS.

THE RESULTS OF THIS STUDY INDICATE THAT THE REUSE OF PLANS TO SAVE ARCHITECTS'

FEES IS NOT THE BEST MEANS OF EITHER SAVING MONEY OR SOLVING SCHOOL CONSTRUCTION PROBLEMS.

OUR THIRD EXPERIENCE IN REUSABLE PLANS IS PRESENTLY UNDER WAY. WE HAVE REUSED TWO NEW ELEMENTARY SCHOOL PLANS BY TWO DIFFERENT ARCHITECTS TO BUILD TWO ADDITIONAL SCHOOLS, ALL OF WHICH WERE NEEDED WITHIN A TWO-YEAR PERIOD. THE REASON FOR THIS ACTION WAS TO SAVE TIME BECAUSE OF POPULATION GROWTH PRESSURES. WE HAVE BID ALL FOUR SCHOOLS NOW, AND WE HAVE DISCOVERED AGAIN THAT THE SAVING IN COST IS LESS THAN 1% OF THE ARCHITECT'S FEE ON ONE SCHOOL AND NO SAVING ON THE OTHER. THE DIFFERENCE WAS IN THE SITE CONDITIONS. WE DID FIND THAT WE SAVED TIME, AND WE PROBABLY ALSO SAVED MONEY DUE TO THE FACT THAT CONSTRUCTION WAS SPEEDED AND THE INFLATIONARY SPIRAL HAD ONE LESS YEAR TO BECOME INVOLVED THAN MIGHT OTHERWISE HAVE HAPPENED. AGAIN, IN BOTH INSTANCES THE CONTRACTORS ON THE FIRST PROJECTS WERE THE SUCCESSFUL LOW BIDDERS ON THE REUSE PROJECTS.

FROM OUR EXPERIENCE AND THAT OF OTHERS ALL AROUND THIS COUNTRY, WE LEARN THAT ONE MAY SAVE A LITTLE MONEY BY USING STOCK PLANS AT THE COST OF PERPETUATING OBSOLESCENCE. WE DO NOT RECOMMEND THE REUSE OF PLANS EXCEPT TO SAVE TIME. THE STATE DEPARTMENT OF EDUCATION HAS MUCH SIMILAR DATA WHICH GENERALLY SUBSTANTIATES OUR CONCLUSIONS.

LASTLY, "WHY DON'T YOU BUILD MULTI-STORY SCHOOL BUILDINGS INSTEAD OF THE 'RANCH-TYPE' SINGLE-STORY BUILDINGS? WE DO BUILD MULTI-STORY BUILDINGS IF THEY WILL FIT OUR PROGRAMS AND WHEN IT IS MOST ECONOMICAL TO DO SO. WE'VE DOUBLE-STORIED PARTS OF SEVERAL BUILDINGS BECAUSE OF THE TOPOGRAPHICAL CONDITIONS OF THE SITES. WE WOULD BUILD MULTI-STORY SCHOOLS IF THE COST OF THE SITE EXCEEDED THE INCREASED COST OF BUILDING MULTI-STORIES. WE KNOW THAT OUR SINGLE-STORY BUILDINGS ARE LESS COSTLY TO CONSTRUCT, MORE EARTHQUAKE RESISTANT, MORE FIRE-SAFE FOR CHILDREN, AND MORE EFFICIENT FOR

SCHOOL OPERATIONS. THE COSTS OF HEAVIER FOOTINGS, FOUNDATIONS AND WALLS, COUPLED WITH THE LOST SPACE OF CENTRAL HALLWAYS AND STAIRCASES, MAKES MULTI-STORY SCHOOL CONSTRUCTION MORE EXPENSIVE. FROM THE STANDPOINT OF EDUCATION, WE BELIEVE THAT SINGLE-STORY SCHOOLS ARE USUALLY MORE EFFICIENT LEARNING CENTERS AND MORE EASY TO OPERATE AND ADMINISTER. THE RECENT INTRODUCTION OF AN ASSEMBLED RELOCATABLE BUILDING MAY ADD SOME NEW DIMENSIONS TO SCHOOL CONSTRUCTION IF AND WHEN TIME BECOMES THE PRIME FACTOR IN MEETING A DISTRICT'S BUILDING NEEDS.

CONCLUSIONS

I'VE ATTEMPTED TO SHARE WITH YOU SOME OF OUR PROBLEMS AND PRACTICES IN ADMINISTERING A PROGRAM OF SCHOOL CONSTRUCTION IN A RAPIDLY GROWING SUBURBAN DISTRICT. I HAVE NOT TOUCHED ALL BASES. WE COULD SPEND TIME ON THE FUNCTIONS OF THE STATE BOARD, THE STATE SUPERINTENDENT'S OFFICE, AND THE LOCAL SCHOOL BOARD IN SCHOOL PLANT PLANNING. WE HAVEN'T TALKED ABOUT THE USE AND PLANNING OF PLAYGROUNDS OR THE LANDSCAPING OF BUILDINGS. I DO HOPE I'VE HELPED YOU UNDERSTAND THAT SCHOOL PLANT PLANNING IS AN IMPORTANT BUSINESS THAT REQUIRES PROFESSIONAL MANAGEMENT. GONE ARE THE LITTLE RED SCHOOLHOUSES WITH THEIR POT-BELLIED STOVES. FAST DISAPPEARING, TOO, ARE THE TRADITIONAL, EGG-CRATE-ARRANGED SCHOOLS (A CAGE FOR EACH AGE) WITH THEIR RECTANGULAR CLASSROOMS SURROUNDED BY CORRIDORS. IN THEIR PLACE ARE BUILDINGS DESIGNED TO ADAPT AND FLEX TO TODAY'S AND TOMORROW'S EDUCATIONAL PROGRAMS. WHY DON'T YOU VISIT A NEW SCHOOL SOON AND STAY LONG ENOUGH IN A CLASSROOM WITH A TEACHER AND HER STUDENTS TO SENSE THE PLANT FACILITY NEEDS OF TODAY'S EDUCATIONAL PROGRAMS?